

# PATENT COOPERATION TREATY PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)



Applicant's or agent's file reference 7045	<b>FOR FURTHER ACTION</b> <span style="float: right;">see Form PCT/ISA/220 as well as, where applicable, item 5 below.</span>	
International application No. PCT/JP2005/005448	International filing date(day/month/year) 17.03.2005	(Earliest) Priority Date (day/month/year) 18.03.2004
Applicant SHOWA DENKO K.K.		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 4 sheets.

☐ It is also accompanied by a copy of each prior art document cited in this report.

**1. Basis of the report**

a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. ☐ With regard to any nucleotide and/or amino acid sequence disclosed in the international application, see Box No. I.

2. ☐ Certain claims were found unsearchable (See Box II).

3. ☒ Unity of invention is lacking (See Box III).

4. With regard to the title,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the abstract,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the drawings,

a. the figure of the drawings to be published with the abstract is Figure No. 3

☒ as suggested by the applicant.

☐ as selected by this Authority, because the applicant failed to suggest a figure.

☐ as selected by this Authority, because this figure better characterizes the invention.

b. ☐ none of the figures is to be published with the abstract.

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**Box No. II** Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:  
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

**Box No. III** Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

The inventions of claims 1-11 are linked to be one another only in respect of the feature "a plate body made of material different from that of the crystal substrate and formed on a surface of an uppermost layer which is opposite from the crystal substrate that is removed from the stacked structure". However, this feature is disclosed in a prior art documents WO 2003/034508 A1 ( NICHIA CORP ) 2003.04.24 and JP 2002-261024 A ( HITACHI CABLE ) 2002.09.13. So the feature cannot be a special technical feature. And there exists no special technical feature linking the inventions of claims 1-11 as to form a single general inventive concept among the inventions.

Therefore there are no technical relationship which is considered as "special technical feature"(PCT rule 13.2) among the claims 1-11. So this application contains the following groups of invention which are not so linked as to form a single inventive concept under PCT rule 13.2.

Group I : Claims 1-7, 10, 11

Group II : Claim 8, 9

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☒ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

**Remark on Protest**

- ☐ The additional search fees were accompanied by the applicant's protest.  
☐ No protest accompanied the payment of additional search fees.

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<b>A. CLASSIFICATION OF SUBJECT MATTER</b>		
Int.Cl. <sup>7</sup> H01L33/00		
According to International Patent Classification (IPC) or to both national classification and IPC		
<b>B. FIELDS SEARCHED</b>		
Minimum documentation searched (classification system followed by classification symbols)		
Int.Cl. <sup>7</sup> H01L33/00		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
Published examined utility model applications of Japan 1922-1996 Published unexamined utility model applications of Japan 1971-2005 Registered utility model specifications of Japan 1986-2005 Published registered utility model applications of Japan 1994-2005		
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)		
<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X Y	WO 2003/034508 A1 (NICHIA CORP) 2003.04.24, Pages 39-42, Figure 6 & US 2004/072383 A1 & EP 1385215 A2 & CN 1476050 A	1-7, 10, 11 8, 9
X Y	JP 2002-261024 A (HITACHI CABLE) 2002.09.13, Paragraph [0037][0043][0049], Figure 3 (Family: None)	1-3, 5, 10 4, 6-9, 11
Y	JP 11-220167 A (MATSUSHITA ELECTRONICS CORP) 1999.08.10, Paragraph [0027][0034], Figures 1-3 (Family: None)	6, 7
<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C. <input type="checkbox"/> See patent family annex.		
* Special categories of cited documents: "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier application or patent but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art "&" document member of the same patent family		
Date of the actual completion of the international search 18.04.2005		Date of mailing of the international search report 26.4.2005
Name and mailing address of the ISA/JP <b>Japan Patent Office</b> 3-4-3, Kasumigaseki, Chiyoda-ku, Tokyo 100-8915, Japan		Authorized officer <b>Saido Shingo</b> Telephone No. +81-3-3581-1101 Ext. 3255
		2K 3498

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International application No.

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C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	JP 2003-309289 A (SHARP KK) 2003.10.31, Full Text, All Figures (Family: None)	1-11
A	JP 2002-198569 A (SONY CORP) 2002.07.12, Full Text, All Figures (Family: None)	1-11
A	JP 6-302857 A (HEWLETT PACKARD CO) 1994.10.28, Full Text, All Figures & US 5376580 A & EP 0616376 A1	1-11